

THE WAVES OF INNOVATION



2 0 1 9
I E E E
A W A R D S

 **IEEE**
*Advancing Technology
for Humanity*

AGENDA FOR IEEE VISION, INNOVATION, AND CHALLENGES SUMMIT

- 7:30 AM **Registration Opens** for the IEEE VIC Summit (*Marriott Grand Ballroom West Registration*)
- 7:30 - 8:30 AM **Breakfast** (*Marriott Grand Ballroom Terrace*)
- 9:00 AM **Welcome Remarks** (*All sessions in the MGB 8 & 9*) José M.F. Moura, IEEE President
- 9:15 AM **Introductions** by Master of Ceremonies, Mike North, Cohost *Outrageous Acts of Science*
- 9:30 AM **Keynote: Our Time to Lead: Women and Men Creating Technology Together, and Defining Our Future** Telle Whitney, Co-founder of the National Center for Women and Information Technology
- 10:15 AM **Break** (*MGB Foyer*)
- 10:30 AM **IoT: Smart Networks and Social Innovations** Moderator: Sandra Baer, President, Personal Cities, with panelists: Avidah Zakhor, Qualcomm Chair and professor in EECS at U.C. Berkeley; Fawzi Behmann, President, TelNet Management Consulting, Inc.; and Irene Hu, Biobot Analytics
- 11:30 AM **Risks Posed by the Internet of Things** Kayne McGladrey, Director of Security and IT with Pensar Development
- 12:00 PM **Lunch & Networking** (*MGB Terrace*)
- 1:30 PM **Welcome Back** with Mike North (*All afternoon sessions in MGB 8 & 9*)
- 1:45 PM **Ethics in AI: Impacts of (Anti?)Social Robotics** Moderator, Dominik Boesl, IEEE TechEthics Ad Hoc Committee and Head of Robotics at Festo, with panelists: Ayanna Howard, Robotician, Georgia Tech, and Kate Vredenburg, Harvard University, and Kevin McGowan at McKinsey & Company
Panel session brought to you by IEEE TechEthics
- 2:30 PM **Special Guest Speaker** from Viasat
- 3:00 PM **Break** (*MGB Foyer*)
- 4:00 PM **Closing Remarks** by Mike North
- 4:15 PM **Networking Reception** (*MGB Foyer*) Meet & Greet ♦ Photos ♦ Robot Demos
- 5:30 PM **Doors Open** for seating (*Marriott Grand Ballroom 1-6*)
- 6:00 PM **Honors Ceremony Gala & Dinner** (*Marriott Grand Ballroom 1-6*)
Presentation of 2019 IEEE Medals and Recognitions. Hosted by José M.F. Moura, IEEE President, and Toshio Fukuda, IEEE President-Elect
- 9:00 PM **Afterglow Mixer**, sponsored by IEEE Young Professionals (*MGB Foyer*) following the Honors Ceremony

Program may be subject to change

SPEAKERS



Mike North is involved in many aspects of technology from inventing new materials and technologies in a cleanroom, to creating cutting-edge prototypes on Discovery Channel's *Prototype This!* His engaging personality makes him an energetic and charismatic science and technology advocate inspiring grade-schoolers to CEOs. A master of the "nano" world, his scientific interests include

biomimetics, micro/nanofabrication, nanoscale microscopy, and micro/nanomechanical characterization. Codeveloping the concept of *Prototype This!* and developing concepts for new inventions, he would then lead teams of crack inventors, builders, and engineers to create never-before-seen spectacles of engineering. ReAllocate is the project he is most passionate about. As founder, he is uniting the engineering and design communities to provide design and engineering support to those at the base of the economic pyramid. He commonly speaks on the status and future of science and technology and is a stand-out motivational speaker.



Telle Whitney developed a critical understanding of the challenges women face in technology sectors during her accomplished career in the semiconductor industry and used her experiences to become a pioneer for the promotion of women technologists. As president and chief executive officer of the Anita Borg Institute for Women (now known as AnitaB.org) from 2002 until 2017,

Whitney shaped and executed the Institute's mission of increasing the number of women technologists in the global workforce. Through Whitney's vision, hard work, and intense commitment, AnitaB has identified issues, pushed both women and men to address the challenges, and inspired hundreds of thousands of women at all stages in their careers to persist and succeed. She guided AnitaB from a new and struggling nonprofit to one with a global reach and brand that has become an established force supporting women in technology.



Sandra Baer has worked with city leaders and smart city companies, worldwide, for over 20 years, helping them discover the power of partnerships across the city ecosystem to build trust and create prosperous communities. She is the president of Personal Cities, a smart city company focused on city branding and identity, social inclusion, and the acceleration of digital technology investments. She is a global

ambassador for the Edison Electric Institute, where she works to showcase the unique collaboration opportunities for utilities and smart cities. As a senior advisor to Citibeats, she supports its mission to create an economy of impact by understanding the real concerns of a community in real time. An artificial-intelligence-based platform, Citibeats quickly gathers authentic, comprehensive feedback, visualizing what residents of a city are saying about specific topics to help city leaders create people-centered strategies that foster sustainable development, grow a healthier economy, and build trust with every member of the community to create a more livable city.



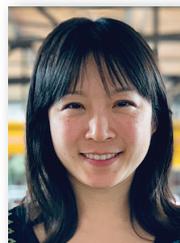
Fawzi Behmann is a visionary, thought leader, author, entrepreneur, and evangelist in advancing the adoption of technology in serving humanity. President of Telnet Management Consulting, Inc., with over 35 years in the industry, he's held various executive and leadership positions with companies in the areas of communications and networks spanning service providers, equipment vendors, and semiconductors in the U.S. and Canada. He founded

TelNet Management Consulting in 2009 to offer education and professional services in the areas of technology trends, Internet of Things/artificial intelligence/5G technology positioning, and smart networking solutions development in key markets such as health-care, mobility, energy, public safety, and smart cities. He organized the 2018 IEEE GreenTech International Conference and has been a keynote and distinguished speaker and presenter at several domestic and international conferences. An IEEE Senior Member, he is currently a Distinguished Lecturer for the IEEE Computer Society.



Avidesh Zakhor is currently the Qualcomm Chair and professor in electrical engineering and computer science at the University of California, Berkeley. Her areas of interest include theories and applications of signal, image, and video processing and 3D computer vision. She has won many best paper awards and was the 2018 recipient of SPIE's Electronic Imaging Scientist

of the Year Award, and the Presidential Young Investigators Award and the Office of Naval Research Young Investigator Award in 1992. She received a B.S. degree from Caltech and S.M. and Ph.D. degrees from MIT, all in electrical engineering. She was a General Motors Scholar from 1982 to 1983 and was a Hertz fellow from 1984 to 1988. In 2001, she was elected IEEE Fellow. She cofounded OPC technology in 1996 (later acquired by Mentor Graphics) and UrbanScan Inc. in 2005 (acquired by Google in 2007). She founded Indoor Reality in 2015 to develop technologies for fast, automated energy audits of commercial buildings.



Irene Hu serves as the hardware electronics engineer of Biobot Analytics, where she leads the development of hardware electronics, communications infrastructure, and sensing technology. Biobot transforms city sewage into public health observatories and is currently measuring opioid concentrations in sewage to estimate consumption in cities. Government, public health officials,

and first responders leverage this near-real-time data to tailor their opioid response strategies. She has served on the executive board of Graduate Women at the Massachusetts Institute of Technology (MIT) and she is active in the MIT Science Policy Initiative. Hu received the MIT Presidential Fellowship. She holds a bachelor's degree in electrical engineering from Princeton University, Princeton, NJ, USA.

SPEAKERS



Kayne McGladrey an IEEE member and the Director of Security and IT with Pensar Development, where leads a team charged with defending and deterring cyber threats in manufacturing. His present position continues to give him the chance to develop and deploy critical cyber security programs. He also regularly has the privilege of speaking to the media and public about cyber security and technology and is passionate about increasing diversity in cyber security.

Previously, Kayne held progressively higher leadership positions in professional services management, systems engineering, cyber security solutions delivery, and program implementation with Integral Partners, Centrifry Corporation, AT&T Wireless and other high-tech firms in the US and Canada. Kayne lives in Bellingham, WA with his family and an increasing number of robots and other IoT devices. If you follow Kayne on Twitter, his eleven-year old daughter is creating his daily cyber security statistics tweets.



By leading efforts in “robotic and artificial intelligence governance,” **Dominik Boesel** is fostering the interdisciplinary discourse about the impact of robotics and automation on society and humankind and working on establishing a framework for voluntary self-regulation regarding the use of disruptive technologies. VP and head of robotic futures at Festo AG, he leads FESTO’s

robotics business unit and defines its automation strategy. Prior to that he had been responsible for innovation and technology management at KUKA Laboratories. His responsibility for innovation and evangelism efforts spanned the entire KUKA group. As one of KUKA’s Technical Fellows he defined KUKA’s digitalization, IoT and Industrie 4.0 strategy. He lectures at various universities and has authored technical and scientific publications.

At IEEE, he currently serves as chair of the IEEE TechEthics Ad Hoc Committee and as vice president for industrial activities of the IEEE Robotics and Automation Society.



With a career focused on intelligent technologies that must adapt to and function within a human-centered world, **Ayanna Howard’s** work has encompassed advancements in artificial intelligence (AI), assistive technologies, and robotics with over 250 peer-reviewed publications and projects ranging from healthcare robots in the home to AI-powered STEM apps for children with diverse learning needs. Her

unique accomplishments have been highlighted through many awards and articles, including highlights in USA Today, Upscale, and Time, as well as being recognized as one of the 23 most powerful women engineers in the world by Business Insider and one of the Top 50 U.S. Women in Tech by Forbes. The Linda J. and Mark C. Smith Professor and Chair of the School of Interactive Computing at the Georgia Institute of Technology, she is also the chief technology officer of Zyrobotics, which she founded in 2013. Zyrobotics and is currently licensing technology derived from her research. Prior to Georgia Tech, she was a senior robotics researcher at NASA’s Jet Propulsion Laboratory.



Kate Vredenburg is a PhD candidate in philosophy at Harvard University. Her work and teaching examine political and ethical questions around emerging technologies, such as questions around transparency and explainability. In the fall, she will take up a one year postdoctoral fellowship at the McCoy Family Center for Ethics in Society at Stanford University, before joining the London School of Economics as an Assistant Professor in 2020.



Kevin McGowan is an Associate Partner for McKinsey & Co. in its Cleveland office. He is a leader in McKinsey’s Global Energy & Materials (GEM) Practice. He primarily serves clients in Chemicals (Commodity and Specialty), Materials, Energy and Agriculture. He supports client with complex functional excellence transformations across commercial, supply chain and operations.

Recently, he has been focusing on the role of Industry 4.0 (digital, advanced analytics and automation) on asset/network and labor productivity in the Chemicals Industry.

Kevin holds a PhD in Chemistry from the University of Florida, MBA from Duke University and BS in Chemistry from Duke University.

PRE-EVENT SPONSOR

Qualcomm

SILVER PARTNER

Viasat

PRESENTATION OF AWARDS AT IEEE HONORS CEREMONY

Friday, 17 May 2019
Marriott Marquis San Diego Marina
San Diego, California, USA

*OPENING REMARKS—IEEE President and CEO, José M.F. Moura
& IEEE President-Elect, Toshio Fukuda*

IEEE Spectrum Technology in the Service of Society Award	Zipline
IEEE Spectrum Emerging Technology Award	Ciena
IEEE Richard M. Emberson Award	Marcel Keschner
IEEE Haraden Pratt Award	David G. Green
IEEE Honorary Membership	Telle Whitney
IEEE Corporate Innovation Award	Bose Corporation
IEEE Theodore W. Hissey Outstanding Young Professional Award	Mario Milicevic
IEEE Dennis J. Picard Medal for Radar Technologies and Applications	Richard Klemm
IEEE President's Award	Katherine G. Johnson
IEEE James H. Mulligan, Jr. Education Medal	John G. Webster
IEEE Medal for Environmental and Safety Technologies	Richard Nute, D. Ray Corson, & Jim Barrick
IEEE Richard W. Hamming Medal	David Ngar Ching Tse
IEEE Alexander Graham Bell Medal	Teresa H. Meng
IEEE Jack S. Kilby Signal Processing Medal	Alan S. Willsky
IEEE Medal for Innovations in Healthcare Technology	Kamil Ugurbil
IEEE/RSE James Clerk Maxwell Medal	David Flynn & David Jaggar
IEEE Jun-ichi Nishizawa Medal	Yasuhiko Arakawa, Pallab Bhattacharya, & Dieter Bimberg
IEEE Robert N. Noyce Medal	Antun Domic
IEEE John von Neumann Medal	Eva Tardos
IEEE Founders Medal	Sir Robin Keith Saxby
IEEE Medal in Power Engineering	Lionel O. Barthold
IEEE Simon Ramo Medal	Harold Lawson
IEEE Edison Medal	Ursula Keller
IEEE Medal of Honor	Kurt E. Petersen